

**Method to manufacture LDMOS transistors
with improved threshold voltage control**

5

ABSTRACT OF THE INVENTION

A double diffused region (65), (75), (85) is formed in an epitaxial layer (20). The double diffused region is formed by first implanting light implant specie such as boron through an opening in a photoresist layer prior to a hard bake process. Subsequent to a hard bake process heavy implant specie such as arsenic can be implanted into the epitaxial layer. During subsequent processing such as LOCOS formation the double diffused region is formed. A dielectric layer (120) is formed on the epitaxial layer (20) and gate structures (130), (135) are formed over the dielectric layer (120).